sensor to determine a tilt of the dock and communicate the tilt to a processor within the apparatus.

[0015] In accordance with an embodiment of the present disclosure a drip chamber may comprise a housing defining fluid chamber. The drip chamber may comprise a top cap coupled to the housing and a bottom cap coupled to the housing at an opposite end of the housing from the top cap. The drip chamber may comprise an inlet port coupled to the top cap and in fluid communication with the fluid chamber as well as an outlet port coupled to the bottom cap and in fluid communication with the fluid chamber. The drip chamber may comprise a drip orifice coupled to the top cap and fluidly coupled to the inlet port. The drip chamber may comprise a downstream tube coupled to the bottom cap and in fluid communication with the fluid chamber of the housing. The drip chamber may also comprise a sleeve disposed adjacent to a section of the downstream tube including a plurality of parallel wires disposed within the sleeve.

[0016] In some embodiments, the sleeve may be disposed on an outer periphery of the downstream tube. In some embodiments, the sleeve may be disposed on an inner periphery of the downstream tube. In some embodiments, the plurality of wires may be parallel to the downstream tube. In some embodiments, the plurality of wires may be metallic. In some embodiments, the plurality of wires may be non-metallic. In some embodiments, the plurality of wires may be embedded within the sleeve.

[0017] In accordance with another embodiment of the present disclosure a drip chamber may comprise a housing defining fluid chamber and a top cap coupled to the housing. The drip chamber may comprise a bottom cap coupled to the housing at an opposite end of the housing from the top cap. The drip chamber may comprise an inlet port coupled to the top cap and in fluid communication with the fluid chamber. The drip chamber may comprise an outlet port coupled to the bottom cap and in fluid communication with the fluid chamber. The drip chamber may comprise a drip orifice coupled to the top cap and fluidly coupled to the inlet port. The drip chamber may comprise a downstream tube coupled to the bottom cap and in fluid communication with the fluid chamber of the housing. The drip chamber may also comprise a sleeve disposed adjacent to a section of the downstream tube including a coiled wire disposed within the sleeve.

[0018] In some embodiments, the sleeve may be disposed on an outer periphery of the downstream tube. In some embodiments, the sleeve may be disposed on an inner periphery of the downstream tube.

[0019] In accordance with another embodiment of the present disclosure a drip chamber may comprise a housing defining a fluid chamber. The drip chamber may comprise a top cap coupled to the housing and a bottom cap coupled to the housing at an opposite end of the housing from the top cap. The drip chamber may comprise an inlet port coupled to the top cap and in fluid communication with the fluid chamber as well as an outlet port coupled to the bottom cap and in fluid communication with the fluid chamber. The drip chamber may comprise a drip orifice coupled to the top cap and fluidly coupled to the inlet port. The drip chamber may comprise a downstream tube coupled to the bottom cap and in fluid communication with the fluid chamber of the housing. The drip chamber may also comprise an anti-pinch member disposed on a portion of the downstream tube and configured to prevent point contacts from forming within the downstream tube.

[0020] In some embodiments, the anti-pinch member may be disposed on an outer periphery of the downstream tube. In some embodiments, the anti-pinch member may be disposed on an inner periphery of the downstream tube.

[0021] In accordance with another embodiment of the present disclosure a drip chamber may comprise a housing defining a fluid chamber. The drip chamber may comprise a top cap coupled to the housing and a bottom cap coupled to the housing at an opposite end of the housing from the top cap. The drip chamber may comprise an inlet port coupled to the top cap and in fluid communication with the fluid chamber as well as an outlet port coupled to the bottom cap and in fluid communication with the fluid chamber. The drip chamber may also comprise a drip orifice coupled to the top cap and fluidly coupled to the inlet port and a downstream tube coupled to the bottom cap and in fluid communication with the fluid chamber of the housing. A section of the downstream tube may include a plurality of elongated threads disposed within the section of the downstream tube.

[0022] In some embodiments, the plurality of elongated threads may be formed by extrusions. In some embodiments, the plurality of elongated threads may be disposed along an internal wall of the section of the downstream tube.

[0023] In accordance with yet another embodiment of the present disclosure, a drip chamber may comprise a housing defining a fluid chamber. The drip chamber may comprise a top cap coupled to the housing and a bottom cap coupled to the housing at an opposite end of the housing from the top cap. The drip chamber may comprise an inlet port coupled to the top cap and in fluid communication with the fluid chamber as well as an outlet port coupled to the bottom cap and in fluid communication with the fluid chamber. The drip chamber may comprise a drip orifice coupled to the top cap and fluidly coupled to the inlet port. The drip chamber may comprise a downstream tube coupled to the bottom cap and in fluid communication with the fluid chamber of the housing. A plurality of tapering channels may be formed on an internal surface of the downstream tube. In some embodiments, each of the tapering channels taper to a point.

[0024] In accordance with still another embodiment of the present disclosure an apparatus for infusing fluid into a patient may comprise a housing having an opening on a front side of the housing. The opening may be sized to receive a drip chamber and define an internal volume. The apparatus may comprise a coupler to secure the drip chamber to the housing. The apparatus may comprise a screen disposed on a first side of the internal volume configured to display a background pattern. The apparatus may comprise an image sensor positioned to view the screen and the drip chamber.

[0025] In some embodiments, the screen may be an e-ink screen. In some embodiments, the screen may be configured to display a streaming detecting pattern for a first period of time and a drop detecting pattern for a second period of time. In some embodiments, the screen may be configured to adaptively display the drop detecting pattern in areas of interest determined by a processor using data from the image sensor.

[0026] In accordance with another embodiment of the present disclosure a drip chamber may comprise a housing defining a fluid chamber. The drip chamber may comprise a top cap coupled to the housing, the top cap having a first